IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant	:	Lin et al.
App. No.	:	10/815,905
Filed	:	March 31, 2004
For	:	INTERFEROMETRIC MODULATION PIXELS AND MANUFACTURING METHOD THEREOF
Examiner	:	Hoang Q. Tran
Art Unit	:	2874
Conf. No.	:	9293

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Jeremy K. Pierce, Reg. No. 59,034

ON APPEAL TO THE BOARD OF PATENT APPEALS AND INTEREFERENCES
REPLY BRIEF

Mail Stop Appeal Brief – Patents
COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Appellants have received the Examiner's Answer mailed on April 1, 2010. Pursuant to 37 CFR 41.41(a)(1) and 41.43(b), Appellants hereby submit this Reply Brief within two months from the mailing date of the Examiner's Answer.

Pursuant to M.P.E.P. § 1208, the Reply Brief includes the following items: status of claims page(s); grounds of rejection to be reviewed on appeal page(s); and argument page(s). Each of these items begins on a separate page.

I. STATUS OF THE CLAIMS

Claims 20-28 are finally rejected. Claims 1-19 are withdrawn from consideration. Accordingly, Claims 20-28 are the subject of this appeal. The claims at issue are attached to Appellants' Brief, filed on December 11, 2009, as Appendix A.

II. GROUNDS OF REJECTION TO REVIEW ON APPEAL

A. The Examiner has rejected pending Claims 20, 21, 23, and 26-28 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,835,255 to Miles ("Miles") in view of Matsumoto et al., "Novel Prevention Method of Stiction Using Silicon Anodization for SOI Structure," Sensors and Actuators, A72 (1999) 153-159 ("Matsumoto"). *See* Final Office Action dated July 22, 2009, pages 2-4.

B. The Examiner also has rejected pending Claims 22, 24, and 25 as being unpatentable over Miles in view of Matsumoto and further in view of U.S. Patent No. 6,335,224 to Peterson et al. ("Peterson"). *See* Final Office Action dated July 22, 2009, pages 4-5.

III. APPELLANTS' ARGUMENT

A. Rejection of Claims 20, 21, 23, and 26-28 over Miles in view of Matsumoto

To briefly summarize the arguments previously set forth in Appellants' Brief, the rejection set forth by the Examiner constitutes clear error because (1) the Miles device is an optical device whose function depends upon its ability to reflect and modulate light in a particular manner, and (2) Matsumoto does not provide any reason for one of ordinary skill in the art to use either of the self-assembled monolayer ("SAM") or the fluorocarbon film in an optical device, since the evidence of record sets forth that such layers interfere with the transmission of light, and thus there is no expectation that the modification proposed by the examiner would be successful. Appellants hereby incorporate all previous remarks set forth in their Brief, and further address two of the arguments set forth by the Examiner in the Answer.

First, the Examiner refers to Peterson as a "teaching reference" in support of the rejection over Miles in view of Matsumoto. The Examiner alleges that Peterson, as a "teaching reference," "shows a coating material 14 made of SAM material (Col 5[10-20]) applied to optically active structures (Col 5[1-10])." *See* Examiner's Answer, p. 6. The Examiner concludes that "SAM type materials being applied to a reflector surface will not hinder the optical operation of the device of Miles." *Id.* Appellants respectfully disagree.

The Examiner's interpretation as to the disclosure of Peterson is clearly incorrect. Peterson is directed to "a method of protecting a microelectronic device during device packaging." Peterson, abstract. Peterson does not address how an optical device performs, nor does Peterson address the effects of adding a SAM layer to the device *on optical performance*.

The Examiner has mischaracterized the function of layer 14 in Peterson. Peterson discloses that layer 14 is a "protective coating" designed to "prevent damage due to external contamination, debris, moisture, cutting fluids, handling forces, electrostatic effects, etc." Peterson, col. 4, ll. 61-64. Importantly, Peterson teaches that the protective coating layer 14 is substantially removed following the packaging step (Peterson, abstract). Peterson discloses that a "sufficient amount of coating 14 must be removed so that MEMS element 24 is released" Peterson, col. 9, ll. 38-40 (emphasis added). As such, Peterson does not support the Examiner's position, nor does it rebut the evidence of record, which establishes that SAM layers and fluorocarbon films interfere with the transmission of light. The Examiner's reliance on Peterson

as a "teaching reference" for the proposition that a SAM layer functions with optical devices is clear error because that layer is removed from the device after the packaging step.

Second, the Examiner repeatedly acknowledges the teachings in U.S. Patent No. 6,020,047 to Everhart ("Everhart") that a SAM layer would cause diffraction of white light into rainbow diffraction colors. *See* Examiner's Answer, pp. 7-8, 9. Appellants agree that the evidence of record establishes that a SAM layer would diffract light into various wavelengths, and thus distort it.

However, from this fact, the Examiner concludes that "SAM type layers allow light to pass through with rainbow color spectrum which will provide the combination of SAM material layer with the optical device of Miles combinable." Examiner's Answer, pp. 7-8. Appellants disagree that the Examiner's conclusion is supported by the evidence of record.

The Examiner is apparently confusing "diffraction" of light, as disclosed in Everhart, with transmission of light. However, as explained before, these are two separate concepts. When light is diffracted, it distorts the wavelength. It is Appellants position that the person having ordinary skill in the art would want to avoid light diffraction because the optical device of Miles depends upon its ability to control light wavelength.

However, the Examiner equates the concept of light "diffraction" to light "transmission," which clearly constitutes error. For example, a prism both transmits and diffracts light; however, one would not watch a television having a prism in front of the screen because the picture would be distorted by light diffraction caused by the prism.

Therefore, Appellants respectfully request reconsideration and reversal of this rejection.

B. Rejection of Claims 22, 24, and 25 over Miles in view of Matsumoto and Peterson

The deficiencies of Peterson are discussed above. It is clear that Peterson does not cure the defects of Miles and Matsumoto discussed above. Since the factual findings of record strongly support non-obviousness of the claims over the cited references, the Examiner's failure to address and rebut Appellants' evidence and arguments constitutes clear error. Therefore, Appellants respectfully request reconsideration and reversal of this rejection.

C. Conclusion

In view of the arguments presented above, Appellants submit that Claims 20-28 are allowable. Appellants therefore respectfully request that the Board reverse the rejections of the pending claims as unpatentable under 35 U.S.C. §103(a).

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: 6/1/10

By: 

Jeremy R. Pierce
Registration No. 59,034
Attorney of Record
Customer No. 20995
(619) 235-8550

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